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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,137	09/15/2003	Akihiko Itami	56232.94	3990

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EXAMINER
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RODEE, CHRISTOPHER D

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 12/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/663,137

Applicant(s)

ITAMI, AKIHIKO

Examiner

Christopher RoDee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10/11 & 11/15/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The instant claims have been amended to define the value E as a quotient of the potential of an unexposed area of the photoreceptor at the time of development divided by the layer thickness of organic photosensitive material of the photoreceptor.

A review of the specification discloses the value "E" as follows on page 77. "In the invention, electrical field intensity E (V/ $\mu$ m) applied to the organic photoreceptor during development is a quotient of potential in the unexposed area of the photoreceptor at a time of development divided by layer thickness gm of the photoreceptor." As is conventional in the art, a photoreceptor is the combination of a substrate and either a single charge generation/charge transport layer or a combination of a substrate, a charge generation layer and a charge transport layer (see Figs. 10.4 & 10.5 of *Handbook of Imaging Materials* to Diamond and spec. p. 33, bottom). The entire combination of components (i.e., substrate, charge generation layer, and charge transport layer) is the photoreceptor. The specification does not provide any definition that shows the word "photoreceptor" to have any meaning than that customarily given.

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Thus in the disclosure on page 77 it appears that all components of the photoreceptor are part of the calculation of the photoreceptor thickness.

In the examples and Tables 1 and 4, the layers on the substrate are used in the calculation of the thickness. These include the interlayer, the charge generation layer, and the charge transport layer.

Neither of these disclosures provide basis in the claims for a photoreceptor where an organic photosensitive material is used to determine the thickness relevant for calculation of "E". The only layer disclosed in the specification and claims that is can contain an organic photosensitive material is the charge generation layer. The interlayer is not photosensitive (spec. pp. 35-39) because it has no photosensitive components, is not described as photosensitive, and is used to provide a barrier function. The charge transport layer does not appear to contain any photosensitive materials and is not understood to be included within the scope of an organic photosensitive material.

The claims appear to restrict the layer used for the thickness component of the calculation to the charge generation layer but the specification does not so describe the claims. As such, the claims as presented contain new matter.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 1-065561 in view of Kawahara *et al.* in US Patent 5,821,021 and further in view of Yamazaki *et al.* in US Patent Application Publication 2003/0054269.

This rejection was presented in the last Office action. The partial translation of the applied JP document is noted. This translation shows that the charge generation layer has a thickness of 1  $\mu\text{m}$  or greater, preferably 2 to 25  $\mu\text{m}$  and that the total thickness of the layers (charge generation layer and charge transport layer) is 10 to 40  $\mu\text{m}$ . Photoreceptor "I" referenced in the last Office action has the same characteristics in the partial translation as noted in the last Office action. The specifically disclosed lower limit of 1  $\mu\text{m}$  for the charge generation layer thickness falls within the scope of new claims 8 and 9, and the preferred lower limit of 2  $\mu\text{m}$  falls within the scope of new claim 8. These specifically disclosed thicknesses are suggested by the art and would have been obvious to the skilled artisan.

Applicants traverse the rejection because the JP document requires a phthalocyanine charge generation compound in the charge generation layer, which "clearly teaches away from the present invention." It appears that applicants are making this statement because an N-type charge generation material is required in the claimed process's photoreceptor. Although the claims do require an N-type charge generation material they do not exclude the presence of a P-type charge generation material with an N-type charge generation material. As noted in the last Office action, Kawahara discloses a photosensitive material (i.e., photoreceptor) that contains both P-type and N-type charge generation materials. The preferred N-type pigment is a perylene given by the general formula (2) (col. 6, l. 48-60). A preferred photoreceptor has 10 parts by weight of perylene given by the formula (4) and 1 parts by weight of the metal-free phthalocyanine given by the formula (5) (Example 1). The photoreceptors of Kawahara are given a charge so that the resulting surface potential is 700 V (col. 12, l. 17; Table 1). The

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combined use of N-type and P-type charge generation material gives improved response to laser exposure, particularly at longer wavelengths (col. 2, l. 27-41). The artisan would have found it obvious to use the charge generating materials of Kawahara in the invention of the JP document (i.e., in combination with the phthalocyanine) because Kawahara teaches that this material provides improved response to laser exposure, particularly at longer wavelengths. There is ample motivation for the combination of features proposed in the response.

As noted in the response, the JP document teaches E values of from 12.5 to 90 V/ $\mu$ m (response p. 6, top). Although the specific examples have "E" values outside the scope of the claims, the reference by applicant's own admission teaches E values within the scope of the claims.

Applicants state that the thicknesses in Kawahara are too broad. It is unclear why the thicknesses are too broad and how this position effectively traverses the rejection. The charge generation layer thicknesses of 0.01 to 10  $\mu$ m overlap with those of the JP document (2 to 25  $\mu$ m). This position is not found persuasive. Applicants also take the position that the E values of Kawahara are outside the scope of the instant claims, but the Examiner must rely on the disclosure of the JP document where the E values claimed are taught, as discussed above.

Yamazaki discloses a toner falling within the scope of the instant claims. This toner is combined with the JP document and Kawahara because the toner has the advantage of giving high quality copies, excellent cleaning, and minimal color difference between initial image and after long run production.

There is ample motivation to combine the teachings of the JP document with Kawahara and Yamazaki to arrive at the method of the instant claims. The fact that the JP document requires a phthalocyanine compound does not negate the obviousness of also including a perylene as taught by Kawahara because the combined use of N-type (perylene) and P-type

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(phthalocyanine) charge generation material gives improved response to laser exposure, particularly at longer wavelengths (col. 2, l. 27-41). This combination does not teach against the JP document's guidance.

With respect to the evidence of record in the 132 declaration, applicants have used the combined charge generation layer and charge transport layer to calculate the thickness used in the value "E". However, it appears that only the charge generation layer is an organic photosensitive material in the instant claims. Only this layer should be used in the calculation. If performed in this manner, none of the examples indicated as "inventive" have a value for "E" within the scope of the claims. For example, Sample G (mod 3) has an E value of 305 (610/2). The other inventive examples have the same or larger "E" values. The evidence does not show an unexpected result for the claims because there are no examples within the scope of the claims.

The Examiner also must note that if thickness in the declaration examples is considered in the same manner as the specification examples, then all the values of E are below the lower limit of 50. The specification includes the interlayer in the calculation of the thickness used to determine "E", along with the charge generation layer and the charge transport layer. See Tables 1 and 4 in the specification. Because the interlayer in the declaration examples is described as being formed in the same manner as the specification where a 2  $\mu\text{m}$  thick layer is produced (see spec. pp. 81-82; declaration ¶ 4), the total thickness for example declaration example is 14.0  $\mu\text{m}$ . Each example has an E value of 43.6 when determined in this manner, which is outside the scope of the claims.

A *prima facie* case of obviousness has been set forth and this obviousness has not been rebutted by evidence or argument.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher RoDee whose telephone number is 571-272-1388. The examiner can normally be reached on most weekdays from 6:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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cdr

5 December 2005

A handwritten signature in black ink, appearing to read 'CRA', with a stylized flourish extending from the end.

CHRISTOPHER RODEE  
PRIMARY EXAMINER